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EXAMINER

SHOSHO, CALLIE E

| ART UNIT | PAPER NUMBER |
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1714

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,408

Applicant(s)

SASA, NOBUMASA

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/27/03 & 5/28/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 02022370.

Pending translation, it is noted that JP 02022370 discloses ultraviolet curable ink comprising epoxidized soybean oil and colorant (abstract).

In light of the above, it is clear that JP 02022370 anticipates the present claims.

3. Claims 1-2 and 4-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Tabayashi et al. (U.S. 2004/0052968).

Tabayashi et al. disclose actinic ray curable ink comprising colorant, 5-40% epoxidized soybean oil, 60-95% oxetane, and cationic initiator such as sulfonium salts. The ratio of epoxidized soybean oil to oxetane is calculated as 0.05:1 (5/95) to 0.67:1 (40/60). It is disclosed

that the ink possesses viscosity of 7-50 Pa s. There is also disclosed image formed by depositing ink onto substrate (paragraphs 1, 9, 11-12, 18-21, 58, 85, 93-94, 109, 177-179, 181, and Tables).

In light of the above, it is clear that Tabayashi et al. anticipate the present claims.

4. Claims 1-2, 4-6, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Herrmann et al. (U.S. 6,332,943).

Herrmann et al. disclose actinic ray curable ink comprising colorant, 10-60% epoxidized soybean oil, and cationic initiator such as sulfonium or diazonium salts. There is also disclosed image formed by depositing ink onto substrate (col.1, lines 62-64, col.8, lines 23-25 and 42-52, col.10, lines 35, 45-48, and 63-67, col.11, lines 49-55, and col.12, lines 8-10).

In light of the above, it is clear that Herrmann et al. anticipate the present claims.

5. Claims 1, 4-6, and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al. (U.S. 2003/0054103).

Sato et al. disclose actinic ray curable ink comprising 5-40% epoxidized soybean oil or epoxidized fatty acid acrylic ester and 0-30% colorant. The ink possesses viscosity of 100-300 Pa s. There is also disclosed image formed by depositing ink onto substrate (paragraphs 3, 61, 75, 81, 84, and 98).

In light of the above, it is clear that Sato et al. anticipate the present claims.

6. Claims 1, 4-6, and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Roth (U.S. 5,889,084).

Roth discloses actinic ray curable ink comprising colorant, 10-90% epoxidized soybean oil, and cationic photoinitiator including sulfonium salts. The ink possesses viscosity of 1-500 cP. There is also disclosed image formed by depositing ink onto substrate (col.3, lines 38-54, col.5, lines 24-25, col.9, lines 32-60, col.10, lines 36-54, col.11, lines 14-23, and col.12, lines 4-7 and 19-25).

In light of the above, it is clear that Roth anticipates the present claims.

7. Claims 1-8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Watanabe et al. (U.S. 6,783,840).

Watanabe et al. disclose actinic ray curable ink comprising 100 parts oxetane/epoxy compound, 0.05-25 parts cationic initiator such as sulfonium salts and diazonium salts, 10-500 parts epoxidized soybean oil or butyl epoxy stearate, and 5-200 parts oxetane compound. It is calculated that the ink comprises approximately 12-87% oxetane/epoxy compound, 0.006-18% cationic initiator, 3-83% epoxidized soybean oil or butyl epoxy stearate, and 0.8-65% oxetane compound (col.1, lines 10-13, col.3, lines 1-7 and 34-48, col.4, line 62-col.6, line 9, col.6, lines 50-51, col.7, lines 46-48 and 53-59, col.7, line 66-col.8, line 31, col.11, lines 21-29, and col.12, lines 5-12).

In light of the above, it is clear that Watanabe et al. anticipate the present claims.

8. Claims 1, 3-6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujioka et al. (U.S. 4,012,559).

Fujioka et al. disclose radiation curable coating comprising pigment and epoxidized soybean oil or epoxidized fatty acid ester such as epoxy butyl stearate. it is calculated that the ink comprises approximately 0.08-14% epoxidized soybean oil or epoxidized fatty acid ester (col.2, lines 15-17, col.8, lines 14-19, and col.9, lines 47 and 61-66).

While there is no disclosure that the coating is an ink as presently claimed, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. ink, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art coating and further that the prior art structure which is a coating identical to that set forth in the present claims is capable of performing the recited purpose or intended use presently claimed as required in the above cited portion of the MPEP.

In light of the above, it is clear that Fujioka et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herrmann et al. (U.S. 6,332,943), Sato et al. (U.S. 2003/0054103), or Roth (U.S. 5,889,084) any of which in view of Watanabe et al. (U.S. 6,783,840)

The disclosures with respect to Herrmann et al., Sato et al., and Roth in paragraphs 4-6 above are incorporated here by reference.

The difference between Herrmann et al., Sato et al., or Roth and the present claimed invention is the requirement in the claims of oxetane.

Watanabe et al., which is drawn to curable ink composition, disclose the use of 0.8-65% oxetane compound in order to improve water resistance, adjust viscosity, and reduce curing shrinkage (col.7, lines 60-65 and col.7, line 66-col.8, line 19)

In light of the motivation for using oxetane disclosed by Watanabe et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use oxetane in the ink of Herrmann et al., Sato et al., or Roth in order to improve water resistance, adjust viscosity, and reduce curing shrinkage of the ink, and thereby arrive at the claimed invention.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 02022370, Herrmann et al. (U.S. 6,332,943), Sato et al. (U.S. 2003/0054103), or Roth (U.S. 5,889,084) any of which in view of Maeda et al. (U.S. 6,805,439).

The discloses with respect to JP 0202237, Herrmann et al., Sato et al., and Roth in paragraphs 2 and 4-6 above are incorporated here by reference.

The difference between JP 0202237, Herrmann et al., Sato et al., or Roth and the present claimed invention is the requirement in the claims of oxetane.

Maeda et al., which is drawn to curable ink composition, disclose the use of oxetane in order to avoid cloudiness and odor when the cured ink is heated (col.2, lines 38-48).

In light of the motivation for using oxetane disclosed by Maeda et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use oxetane in the ink of JP 0202237, Herrmann et al., Sato et al., or Roth in order to produce ink that avoids cloudiness and odor when heated, and thereby arrive at the claimed invention.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

GB 2393965 disclose curable ink comprising oxetane, however, given the effective filing date of the reference, GB 2393965 is not applicable against the present claims under any subsection of 35 USC 102.

GB 2211791 discloses actinic ray curable ink, however, there is no disclosure of epoxidized fatty acid ester or epoxidized fatty acid glyceride as presently claimed.

JP 04039367, similar to JP 02022370, discloses curable ink comprising epoxidized soybean oil and colorant.

JP 2002317139 discloses curable ink comprising oxetane and cationic initiator, however, there is no disclosure of epoxidized fatty acid ester or epoxidized fatty acid glyceride as presently claimed.

Borden et al. (U.S. 3,878,077) disclose curable ink comprising amine derivative of acrylated epoxidized soybean oil.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
8/20/05